CASE REPORT

INDIGENOUS TUBE EXCHANGER: BE SAFE BE SURE

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INTRODUCTION: Airway exchange catheter is utilized to facilitate extubation or exchange of endotracheal tube¹. Various studies show that it is better to extubate the patient with airway tube exchange catheter when patient has history of difficult intubation or anticipated re-intubation.²

KEYWORDS: Difficulty in extubation; cost effective, Airway exchange catheter, not readily available, PVC ureteric catheter.

AIMS AND OBJECTIVE: We report a case which had difficulty in intubation and was extubated on an indigenous airway tube exchanger.

MATERIAL AND METHODS: Permission of the ethical committee was taken. A 40 years obese female patient, weighing 85 kg was posted for left ear tympanoplasty, had mouth opening of 2 fingers, no loose teeth, short neck, subluxation of jaw-zero station, mallampati grade 3, free neck movement, Cormack lehane grade 3 and was intubated with no. 7 cuffed endotracheal tube without any trauma with the help of guide wire and external laryngeal pressure.

On completion of surgery, anesthesia was reversed. Patient was conscious, tolerating tube and saturation was 92% on air i.e., without oxygen. In anticipation of post-extubation airway management problem patient was extubated on indigenous airway tube exchange catheter.

INDIGENOUS TUBE EXCHANGER CATHETER: We took the PVC sheath of a ureteric catheter/ guide wire which was cut in 80 cm length (approximately 2.5 times of the length of endotracheal tube). We had marked it at every one cm distance up to 30 cm; to guide the depth of insertion (fig. A). It is a rigid tube with a lumen of 3mm internal diameter and not easy compressible.

This tube exchanger was passed through the endotracheal tube up to 26cm mark/depth (length of the endotracheal tube, fig. B). Patient was extubated keeping the tube exchanger in position (fig. C, D) and a connector of no 3 endotracheal tubes was attached on its distal end. Breathing circuit was attached to this connector. Patient was observed for half an hour. She tolerated the presence of the catheter without episodes of coughing and without complaint of discomfort. After the patient was fully alert, she was extubated uneventfully.

DISCUSSION: Airway exchange catheter (AEC) is commercially available (company: cooks, VBM India etc). AEC is designed to facilitate ease of extubation; endotracheal tube can be exchanged over it (mostly in ICU settings requiring prolonged ventilation). It also provides a patent lumen which may serve to insufflate oxygen, jet ventilation, and direct EtCo₂ measurement.^{3,4}

However tube exchangers are not readily available in most of the set-ups in developing countries. Moreover PVC ureteric catheter sheath is easily available.

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RESULTS: Patient was extubated uneventfully with the help of the indigenous tube exchanger. It may constitute a reliable and cost effective alternative to commercially available tube exchanger in emergency conditions without any harmful effects on the patient.

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Fig: A showing catheter with markings and no.3 ET tube connector on one end.

Fig B: Showing catheter inserted in the ET tube.

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Fig C: Showing extubation performed over the catheter while the catheter is connected to the bair circuit.

Fig D: After extubation, patient with indigenous tube exchange catheter.

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